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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,823	01/25/2001	Harlan Sexton	50277-0459	2214

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Stephen C. Carlson
DITTHAVONG & CARLSON, P.C.
Suite A
10507 Braddock Road
Fairfax, VA 22032

EXAMINER	
CAO, DIEM K	

ART UNIT	PAPER NUMBER
2126	

DATE MAILED: 05/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/768,823	Applicant(s) SEXTON ET AL.	
	Examiner Diem K Cao	Art Unit 2126	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 March 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office action is in response to the Amendment filed on 3/5/2004.

2. Claims 1-20 remain in the application. Applicant has amended claims 1-2, 6, 10-11, 15 and added claims 19-20.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 4, 6-10, 13, 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (U.S. 5,870,753).

5. **As to claim 1**, Chang teaches locating within the shorter-duration memory a context structure associated with the call (col. 4, lines 47-55 and col. 13, lines 1-10), locating an XREF pointers array based on data cached within the context structure (col. 5, lines 5-12), determining whether the XREF pointers array includes a pointer associated with the reference (col. 5, lines 25-30), if the XREF pointers array includes a pointer associated with the reference, then following the pointer to locate the instance within the shorter-duration memory (col. 5, lines 40-55).

6. However, Chang does not explicitly teach the pointer associated with the reference located in the longer-duration memory. Chang teaches the pointer associated with the object in the shorter-duration memory, and the shorter-duration memory associated with the reference located in the shorter-duration memory and longer-duration memory (col. 5, lines 23-59 and Figs. 8-9). It is also noted that in the specification, the XREF pointers array is searched to determine whether the object associated with the XREF has been activated (page 6, section 0075 and page 7, section 0081).

7. It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve the system of Chang because it would improve the performance of the system when determining the existing of the object.

8. **As to claim 4**, Chang teaches the XREF pointers array does not include a pointer associated with the reference (col. 8, lines 1-4), creating the instance by activating the recreatable object (col. 8, lines 36-44), and storing a pointer to the instance in the XREF pointers array (col. 9, lines 4-16).

9. **As to claim 6**, Chang teaches when a class is activated, generating within the shorter-duration memory a class object associated with the class (col. 13, lines 8-16), storing within the class object, data for locating instances of recreatable objects associated with the class (col. 5, lines 49-59), to dereference the reference, performing the steps of determining that the reference

is associated with the class (col. 12, lines 6-17), and using the data within the class object to locate the instance of the recreatable object (col. 13, lines 5-9).

10. However, Chang does not explicitly teach the reference located in the longer-duration memory. Chang teaches the reference located in the shorter-duration memory and longer-duration memory (col. 5, lines 23-59 and Figs. 8-9).

11. It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve the system of Chang because it would improve the performance of the system when determining the existing of the object.

12. **As to claim 7**, Chang teaches the step of storing, within the class object, data for locating instances is performed by storing, within the class object, a pointer to an XREF pointers array (col. 12, lines 53-59).

13. **As to claim 8**, Chang teaches determining whether the XREF pointers array includes a pointer associated with the reference (col. 5, lines 25-30), if the XREF pointers array includes a pointer associated with the reference, then following the pointer to locate the instance within the shorter-duration memory (col. 5, lines 40-50).

14. **As to claim 10**, see rejection of claim 1 above.

15. **As to claims 9, 13 and 18**, see rejection of claim 4 above.

16. **As to claims 15-17**, see rejections of claim 6-8 above.

17. **As to claim 19**, Chang teaches the shorter-duration memory is shorter than the duration of the longer-duration memory (col. 5, lines 6-52).

18. **As to claim 20**, see rejection of claim 19 above.

19. Claims 2-3, and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (U.S. 5,870,753) in view of Bennett (U.S. 6,014,733).

20. **As to claim 2**, Chang does not teach determining a hash code associated with a memory page in which the reference located in the longer-duration memory is located, using at least a portion of the hash code as an index to locate an array entry within an array stored within the context structure, and if the array entry contains a pointer, then following the pointer to locate the XREF pointers array.

21. Bennett teaches determining a hash code associated with a memory page in which the reference (col. 8, lines 43-52), using at least a portion of the hash code as an index to locate an array entry within an array stored within the context structure (col. 4, lines 4-14), and if the array

entry contains a pointer, then following the pointer to locate the XREF pointers array (col. 6, lines 50-57).

22. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Chang and Bennett because it would accomplish to compute a hash value that is stored in the mapping table, thus the server invokes the remote method invocation calls using the hash value indexes and a pointer to locate an reference object.

23. **As to claim 3**, Chang does not teach the array is a power-of-two array, and the portion of the hash code that is used as the index include a particular number of bits of the hash code. Bennett teaches the array is a power-of-two array (col. 7, lines 18-50), and the portion of the hash code that is used as the index include a particular number of bits of the hash code () col. 4, lines 38-53 and col. 7, lines 63-65). It would have been obvious to one of ordinary skill in the art at the time invention was made to combine the teaching of Chang and Bennett because it would accomplish computing a hash value and storing the hash value as an index in the hash table. In addition, the corresponding bits of the bitmap matrix are power of two for the table indexed by 8-bits, or 16-bits, which will be the page offset table.

24. As to claims 11-12, see rejections of claims 2-3 above.

25. Claims 5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (U.S. 5,870,753) in view of Bennett (U.S. 6,014,733) further in view of Jones et al. (U.S. 6,629,154).

26. **As to claim 5**, Chang does not teach if the array entry does not contain a pointer, then creating the instance by activating the recreatable object, and storing a pointer to the instance in the array entry. Jones teaches if the array entry does not contain a pointer (col. 10, lines 55-67), then creating the instance by activating the recreatable object, and storing a pointer to the instance in the array entry (col. 11, lines 6-14). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Change and Jones because it would improve the performance of the system by activate the object only when needed and re-used if the object when it already exists in the memory.

27. **As to claim 14**, see rejection of claim 5 above.

Response to Arguments

28. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

29. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Diem K Cao whose telephone number is (703) 305-5220. The examiner can normally be reached on Monday - Thursday, 9:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (703) 305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Diem Cao

MENG-AL T. AN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100